

## REMARKS

This Amendment is submitted in reply to the non-final Office Action mailed on November 16, 2009. The Director is authorized to charge \$130.00 for the Petition for a one month extension of time and any additional fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 3712036-00719 on the account statement.

Claims 1-21 are pending in the application. In the Office Action, Claims 1-21 are rejected under 35 U.S.C. §112. Claims 1-2, 4, 6-7, 9-11 and 13-21 are rejected under 35 U.S.C. §102. Claims 3, 5, 8 and 12 are rejected under 35 U.S.C. §103. In response, Applicants have amended Claims 1, 3, 7-8, 13-15 and 19-21 and have canceled Claim 6 without prejudice or disclaimer. The amendments do not add new matter and are supported in the specification at, for example, page 5, paragraph 14. In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that the rejections be reconsidered and withdrawn.

In the Office Action, Claims 1-21 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Each individual rejection will be discussed herein below. Applicants respectfully disagree with the indefiniteness rejections and respectfully request that the rejections be reconsidered and withdrawn.

The standard for determining whether the definitiveness requirement is met under 35 U.S.C. § 112, ¶ 2 is “whether those skilled in the art would understand what is claimed when the claim is read in light of the Specification.” *Orthokinetics Inc. v. Safety Travel Chairs Inc.*, 1 U.S.P.Q. 2d 1081-1088 (Fed. Cir. 1986). “If the claims, read in light of the Specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the Courts can demand no more.” *North American Vaccine Inc. v American Cyanamid Co.*, 28 U.S.P.Q. 2d 1333, 1339 (Fed. Cir. 1993). In this regard, “[p]atent law allows the inventor to be his own lexicographer ... [T]he specification aids in ascertaining the scope and meaning of the language employed in the claims inasmuch as words must be used in the same way in both the claims and the specification. *United States v. Teletronics, Inc.*, 8 U.S.P.Q. 2d 1217, 1220 (Fed. Cir. 1988). By statute, 35 U.S.C. 112, Congress has placed no limitations on how an applicant claims his invention, so long

as the specification concludes with claims which particularly point out and distinctly claim that invention.” *In re Pilkington*, 162 U.S.P.Q. 145, 148 (C.C.P.A. 1996).

Regarding the phrase “beverage base,” the Patent Office asserts that is it not clear whether the beverage base stands for the major component by amount, main flavor/aroma/color imparting component,” etc. See, Office Action, page 2, lines 12-15. However, Applicants respectfully submit that the skilled artisan would immediately appreciate the meaning of the phrase “beverage base” in the present claims when read in view of the specification.

For example, the specification states that “a coffee beverage ‘base’ is a component, which can be used for making a beverage. For example, the coffee beverage base can typically be reconstituted e.g. by the addition of a cold or hot liquid in order to form the final beverage.” See, specification, page 5, paragraph 15. The specification also states that “[t]he beverage base of the invention may be a liquid beverage concentrate e.g. a syrup, or a soluble beverage concentrate, e.g. in powder or tablet form,” and that “[a] beverage base according to the invention may comprise at least 0.2% coffee solids by weight of the beverage base and at least 5 ppm fermented coffee aroma components by weight of the beverage base.” See, specification, page 6, paragraph 19; page 7, paragraph 40. When reconstituted, the beverage base provides a beverage with a strong modulated coffee aroma with fruity and/or floral aroma notes.

Accordingly, the beverage base is a beverage composition that may include, for example, foam properties, a modulated coffee aroma with fruity and/or floral aroma notes, coffee solids, sugars, organic acids, etc. See, specification, page 9, paragraph 40; page 11, paragraphs 45-46. As such, the skilled artisan would immediately appreciate that the “beverage base” is the composition that creates the final beverage product when reconstituted.

With respect to the phrase “substantially non-alcoholic,” Applicants have amended independent Claims 1 and 13-14 to recite, in part, “less than 0.05% ethanol” and note that the specification specifically recites that “[i]n the present context substantially non-alcoholic coffee base means a coffee base that comprises less than 0.05%” alcohol (ethanol or ethyl alcohol). See, specification, page 5, paragraph 14. Accordingly, Applicants respectfully submit that the rejection of Claims 1 and 13-14 in view of the phrase “substantially non-alcoholic” is now rendered moot.

Regarding the use of the phrase “modulated coffee aroma,” the specification clearly states that “[t]he fermentation according to the invention provides fruity and/or floral notes to the coffee aroma. The fruity and/or floral notes can be perceived in the headspace above a prepared beverage. The fruity and/or floral aroma is reflected in a new aroma profile in which several compounds are changed, and which give a shift in the overall perception of that beverage aroma. It has been found that aldehydes like 2 and 3-methylbutanal due to the fermentation are substantially completely converted into their corresponding alcohols, thiol compounds like methanethiol and furfurylthiol are converted into their corresponding thioacetates and diketones are largely reduced to their corresponding acetoin. The occurrence of these new compounds can be easily measured by conventional headspace analysis using Solid Phase Microextraction (SPME) sampling.” See, specification, page 5, paragraph 16 (emphasis added).

The specification further states that “[t]he micro-organism used for the fermentation is either a strain of lactic acid producing bacteria or yeast capable of producing fruity and/or floral aroma notes” and that “[y]east has been found to be particular suitable for the present application. The preferred yeast is yeast which may develop a desirable fruity flavour and which are food grade. The strength and type of fruity and/or floral aroma notes the microorganism is capable to impart during the fermentation varies depending on the microorganism and fermentation conditions chosen. Thus, if a particular strong modulation of the coffee aroma is desired certain micro organism may be selected for the fermentation.” See, specification, page 7, paragraphs 31-33. Accordingly, the skilled artisan would immediately appreciate that the beverage base is created by subjecting a coffee component (having its own aroma) to a micro-organism that is specifically selected to impart a fruity and/or floral aroma to the coffee component during fermentation. The skilled artisan would also immediately appreciate that the aroma imparted to the coffee component by the micro-organism is a new, modified or modulated aroma when compared to that of the original (pre-fermented) coffee component.

The Patent Office asserts that Claims 1, 13 and 14 are indefinite for the recitation of the phrase “fermented coffee component comprising coffee aroma”; Claim 2 is rendered indefinite for the recitation of the phrase “coffee component is selected from the group consisting of coffee extract, coffee aroma, and coffee extract from which a portion of coffee aroma has been removed”; Claim 5 is rendered indefinite for the recitation of the phrase “between 0.01% and 2%

coffee aroma by weight”; Claim 18 is rendered indefinite for the recitation of the phrase “fermentation of the coffee aroma.” In this regard, the Patent Office asserts that “[a]roma is an organoleptic characteristic of the food material associated with human sense of smell. Aroma is not a physical component, and it is not clear how aroma could be part of a physical component and measured by weight.” See, Office Action, page 3, lines 4-13. Applicants respectfully disagree.

As stated in the specification, “[t]he coffee component are preferably selected from the group consisting of coffee extract, coffee aroma, coffee extract from which a portion of coffee aroma has been removed. Coffee aroma is the volatile compounds of coffee grounds or coffee extracts. The coffee aroma is preferably an aqueous coffee aroma. The aqueous coffee aroma may be a distillate of coffee aroma compounds from coffee grounds or from coffee extracts or obtained by any other process known to the man skilled in the art of recovering aroma from natural sources and put in an aqueous media. For example the coffee aroma may be obtained from coffee pressing.” See, specification, pages 5-6, paragraph 17. The specification also clearly discusses how the aroma may be, for example, a coffee aroma distillate and an artificial aroma. Specifically, the specification discusses the “well-known” process for stripping off and collecting coffee aroma. The process includes stripping the aroma off using an inert gas or steam during or immediately after grinding of the coffee beans and using steam to strip the coffee aroma from the coffee extract during extraction. Alternatively, the fresh coffee grounds may be slurried in water or coffee extract and the coffee aroma stripped from the slurry. The specification goes on to list references discussing known methods for physically collecting coffee aroma. See, specification, page 8, paragraph 37-page 9, paragraph 39.

After stripping the coffee aroma, the coffee aroma may be captured using any suitable procedure. As discussed in the specification “[o]rdinarily, the coffee aroma is captured by condensing it from the carrier gas in one or more condensers. Preferably, more than one condenser is used; each succeeding condenser being operated at a lower temperature than the previous condenser.” Further, “[t]he captured coffee aroma may, if desired, be concentrated using a suitable technique such as partial condensation or rectification. The captured coffee aroma may be combined with a suitable carrier substrate such as coffee oil or emulsion containing coffee oil or other fats.” See, specification, page 9, paragraph 39. Accordingly,

Applicants respectfully submit that the skilled artisan would immediately appreciate the scope of the present claims, especially with respect to “coffee aroma,” when read in view of the specification. Indeed, and in contrast to the Patent Office’s assertion, it is well known in the art that aroma can be stripped and collected as a physical component.

With respect to Claim 6, the Patent Office asserts that the phrase “wherein the beverage base is fermented” is indefinite. See, Office Action, page 3, lines 14-17. In response, Applicants have deleted Claim 6, thereby rendering the rejection of same moot.

Regarding Claim 7, the Patent Office asserts that the phrase “increased level” renders the claim indefinite. See, Office Action, page 3, lines 18-22. In response, Applicants have amended Claim 7 to recite, in part, wherein the beverage base does not have higher amounts of acetic acid resulting from fermentation than was present in the coffee component prior to fermentation. The amendment does not add new matter and is supported in the specification at, for example, page 5, paragraph 13. Accordingly, Applicants respectfully submit that the skilled artisan would immediately appreciate that the beverage base does not have higher amounts of acetic acid due to fermentation.

Regarding Claim 8, the Patent Office asserts that the phrase “artificial fermented coffee aroma component” renders the claim indefinite because it is not clear in which way the aroma is artificial. See, Office Action, page 4, lines 1-5. In response, Applicants have amended Claim 8 for clarification purposes to recite, in part, the beverage base comprising an artificial aroma component. The amendment does not add new matter and is supported in the specification at, for example, page 11, paragraph 44. Paragraph 44 of the specification states that “[f]or further aromatisation of the beverage base it may be desirable to add artificial aroma. Examples of aromas, which have been found to complement the beverage base, are aromas such as fruity, berries, honey, beer, fermented fruits or ‘eau de vie’ flavours.” As such, the skilled artisan would immediately appreciate the meaning of the phrase “artificial aroma component” when read in view of the specification.

For at least these reasons, Applicant respectfully submits that Claims 1-21 fully comply with the requirements under 35 U.S.C. §112, second paragraph.

Accordingly, Applicant respectfully submits that the rejections with respect to Claims 1-21 under 35 U.S.C. §112, second paragraph, be reconsidered and withdrawn.

In the Office Action, Claims 1-2, 4, 6-7, 9-11 and 13-21 are rejected under 35 U.S.C. §102 as being anticipated by EP 0791296 to Wood et al. ("*Wood*"). In contrast, Applicant respectfully submits that *Wood* fails to disclose or suggest each and every element of the present claims.

Currently amended independent Claims 1 and 13-14 recite, in part, a beverage base comprising less than 0.05% ethanol and a fermented coffee component having a modulated coffee aroma with fruity and/or floral notes due to the fermentation of the coffee aroma. The amendments do not add new matter and are supported in the specification at, for example, page 5, paragraph 14. Applicants have surprisingly found that the fruity and/or floral notes can be generated, thus providing a beverage with a unique aroma signature wherein harsh coffee aroma is balanced with the fruity and/or floral aroma notes. Further, it has surprisingly been found that it is possible to provide a beverage base comprising a fermented coffee component which has a modulated coffee aroma and which is a non-alcoholic drink while at the same time retaining the coffee character of the coffee component. The beverage is refreshing due to its unique aroma profile and stimulating due to the caffeine content in the beverage.

According to the invention, the development of alcohol during the fermentation can be inhibited in particular by controlling the temperature and duration of fermentation, selecting suitable yeast or bacterial strains and this allows the production of a beverage base, which comprises substantially no alcohol. Surprisingly, the fermented beverage obtains a particular desirable aroma under these process conditions. For example, a pleasant fruity and/or floral aroma, which in a pleasant way complement the coffee aroma. Another advantage of the process of the invention is that it allows a fermented beverage to be generated in a relatively short fermentation process. Fermentation processes are generally known to be extensive due to long time the fermentation process takes e.g. in the range of 15 to 27 hours. The fermentation process of the present invention may take less than 8 hours, preferably less than 6 hours but more than 4 hours in order to avoid ethanol formation while allowing development of fruity aroma and conversion of some coffee aroma compounds. See, specification, page 11, paragraph 51-page 12, paragraph 50.

An additional advantage is that a beverage may be provided which although fermented does not comprise acetic acid in amounts higher than what was already in the coffee base. Thus,

such beverage has not the some times unpleasant acidic taste found in some fermented beverages. See, specification, page 4, paragraph 12-page 5, paragraph 13. In contrast, Applicant respectfully submits that *Wood* fails to disclose or suggest every element of the present claims.

For example, *Wood* fails to disclose or suggest a beverage base comprising less than 0.05% ethanol and a fermented coffee component having a modulated coffee aroma with fruity and/or floral notes due to the fermentation of the coffee aroma as is required, in part, by the present claims. Instead, *Wood* is entirely directed to a process for the preparation of a fermented drink that may be prepared from coffee and includes the use of a yeast strain specifically for the purpose of producing ethanol and a bacterial strain specifically for the purpose of acidifying an aqueous extract. See, *Wood*, Abstract; page 2, lines 26-33. Indeed, *Wood* states that “[t]here may be inoculated into the aqueous extract, for the fermentation in one or more stages . . . a yeast strain . . . so as to produce ethanol.” See, *Wood*, page 2, lines 26-30.

Although *Wood* mentions that the level of ethanol and acetic acid can be reduced by reducing the temperature at the end of fermentation, *Wood* does not disclose the possibility or desirability of completely avoiding the formation of ethanol (to the extent practically possible) by fermentation at a temperature below 22°C during the whole fermentation process, as is required, in part, by the present claims. Indeed, *Wood* discloses using temperatures between 27-32°C during fermentation. This is entirely distinguishable from the present claims, which do not allow temperatures to exceed 22°C during the whole fermentation process. Accordingly, *Wood* fails to disclose or suggest less than 0.05% ethanol as required, in part, by independent Claims 1 and 13-14.

*Wood* also fails to disclose or suggest a fermented coffee aroma having fruity and/or floral notes due to the fermentation of the coffee aroma, wherein the aroma having a ratio of 2- and 3-methylbutanol over 2- and 3-methylbutanal of greater than 1 as required by independent Claim 18. The Patent Office even admits same. See, Office Action, page 6, lines 1-6. However, the Patent Office asserts that the claimed ratios of, for example, methylbutanols and thioacetates over thiols, “would have been expected to be as claimed absent any clear and convincing evidence and/or arguments to the contrary.” See, Office Action, page 6, lines 1-6.

As discussed above, the fermentation processes by which the present beverage bases and the beverage of *Wood* are manufactured are entirely different. Indeed, the temperatures and

times for the fermentation of *Wood* are not the same as those used with the present beverage bases. As a result, the amounts of ethanol and acetic acid produced are also distinct. Accordingly, since the Patent Office admits that the beverage of *Wood* fail to disclose the present ratios, *Wood* fails to anticipate the present claims.

Further, *Wood* fails to disclose or suggest the time and temperature restrictions for the present fermentation. For example, *Wood* discloses that the fermentation may take place i) in one step, wherein the yeast and bacteria are added to the aqueous extract together and fermented for 2-10 hours at 27-32°C, or ii) in two steps, wherein the first step includes yeast being added to the aqueous extract and fermented for 15-27 hours at 27-32°C, and the second step includes bacteria being added to the aqueous extract and fermented for 3-9 hours at 20-32°C. Accordingly, in either process of *Wood*, the temperatures during fermentation greatly exceed those utilized in the fermentation processes of the present claims.

Moreover, anticipation is a factual determination that “requires the presence in a single prior art disclosure of each and every element of a claimed invention.” *Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747 (Fed. Cir. 1987) (emphasis added). Federal Circuit decisions have repeatedly emphasized the notion that anticipation cannot be found where less than all elements of a claimed invention are set forth in a reference. See, e.g., *Transclean Corp. v. Bridgewood Services, Inc.*, 290 F.3d 1364, 1370 (Fed. Cir. 2002). As such, a reference must clearly disclose each and every limitation of the claimed invention before anticipation may be found. For at least these reasons, Applicant respectfully submits that *Wood* fails to anticipate the presently claimed subject matter.

Accordingly, Applicant respectfully submits that the anticipation rejection with respect to Claims 1-2, 4, 6-7, 9-11 and 13-21 be reconsidered and withdrawn.

In the Office Action, Claims 3, 5, 8 and 12 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Wood* in view of U.S. Patent No. 5,736,182 to Jimenez et al. (“*Jimenez*”). In view of the amendments and/or for at least the reasons set forth below, Applicants respectfully submit that the cited references are deficient with respect to the present claims. Applicants respectfully submit that the patentability of independent Claim 1 as previously discussed renders moot the obviousness rejection of Claims 3, 5, 8 and 12 that depend from Claim 1. In this



regard, the cited art fails to teach or suggest the elements of Claims 3, 5, 8 and 12 in combination with the novel elements of Claim 1.

For at least these reasons, Applicants respectfully submit that the obviousness rejection of Claims 3, 5, 8 and 12 is improper and that the cited references fail to disclose or suggest each and every element of the presently claimed subject matter.

Accordingly, Applicants respectfully request that the obviousness rejection of Claims 3, 5, 8 and 12 be reconsidered and withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there remains any impediment to allowance of the claims which could be clarified in a telephonic interview, the Examiner is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

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